

Notice of Allowability

Application No.

10/786,108

Examiner

Jared I. Rutz

Applicant(s)

KANEDA ET AL.

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/20/2006.
2. ☒ The allowed claim(s) is/are 1-16 and 18-25.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. Claims 1-16 and 18-25 as amended on 1/20/2006 are pending in the instant application. Applicant's arguments submitted with the instant amendment have been carefully and fully considered, and are persuasive. Accordingly, the instant application is in condition for allowance.

Response to Arguments

2. Applicant's arguments, see the first full paragraph beginning on page 26, filed 1/20/2006, with respect to claim 1 have been fully considered and are persuasive. Clifton does not teach or suggest the use of a fibre channel interface. The rejection of claims 1-8 and 19 has been withdrawn.

3. Applicant's arguments, see the first full paragraph beginning on page 27, filed 1/20/2006, with respect to claim 9 have been fully considered and are persuasive. Clifton does not teach or suggest the use of a fibre channel interface. The rejection of claims 9-14 has been withdrawn.

4. Applicant's arguments, see the first full paragraph beginning on page 28, filed 1/20/2006, with respect to claim 15 have been fully considered and are persuasive. Clifton does not teach or suggest the use of a fibre channel interface. The rejection of claims 15, 16, and 20-22 has been withdrawn.

5. Applicant's arguments, see the first full paragraph beginning on page 29, filed 1/20/2006, with respect to claim 18 have been fully considered and are persuasive.

Clifton does not teach or suggest the use of a fibre channel interface. The rejection of claim 18 has been withdrawn.

6. Applicant's arguments, see the first full paragraph beginning on page 30, filed 1/20/2006, with respect to claim 23 have been fully considered and are persuasive.

Clifton does not teach or suggest the use of a fibre channel interface. The rejection of claim 23 has been withdrawn.

7. Applicant's arguments, see the first full paragraph beginning on page 32, filed 1/20/2006, with respect to claim 24 have been fully considered and are persuasive.

Clifton does not teach or suggest the use of a fibre channel interface. The rejection of claims 24-25 has been withdrawn.

8. Applicant's arguments, see the first full paragraph of page 34, filed 1/20/2006, with respect to the provisional double patenting rejection of claims 1 and 9 have been fully considered and are persuasive. The amended claims 1 and 9 differentiate themselves over claims 1 and 8 of application 10/811,868 respectively. The provisional double patenting rejection of claims 1 and 9 has been withdrawn.

Reasons for allowance

9. **Claims 1-16 and 18-25** are allowable over the prior art.

10. **Claim 1** recites the limitation "*effective capacity calculating means for calculating the total effective capacity of the volumes of the first-level and second level storage units based on subtracting the capacity of the virtual volume from the total capacity of said first and second volumes by using the volume information and the virtualization*

information thus collected." This limitation, in combination with the other limitations of claim 1, is not taught or suggested by the prior art of record.

11. **Claims 2-8 and 19** depend from claim 1, and are considered allowable for at least the same reasons as claim 1.

12. **Claim 9** recites the limitation "*effective capacity calculating means for calculating the total effective capacity of the volumes of the first-level and second level storage units based on subtracting the capacity of the virtual volume from the total capacity of said first and second volumes by using the volume information and the virtualization information thus collected.*" This limitation, in combination with the other limitations of claim 1, is not taught or suggested by the prior art of record.

13. **Claims 10-14** depend from claim 9, and are considered allowable for at least the same reasons as claim 9.

14. **Claim 15** recites the limitation "*calculating the total effective capacity of the volumes of the first and second storage units based on subtracting the capacity of the virtual volume from the total capacity of the first and second volumes by using the volume information of the first and second volumes and the virtualization information.*" This limitation, in combination with the other limitations of claim 15, is not taught or suggested by the prior art of record.

15. **Claims 16 and 20-22** depend from claim 15, and are considered allowable for at least the same reasons as claim 15.

16. **Claim 18** recites the limitation "*calculating the total effective capacity of the volumes of the first and second storage units based on subtracting the capacity of the*

virtual volume from the total capacity of the first and second volumes by using the volume information of the first and second volumes and the virtualization information".

This limitation, in combination with the other limitations of claim 18, is not taught or suggested by the prior art of record.

17. **Claim 23** recites the limitation "*and a third display section for displaying the total available capacity of the volumes of the first-level and second-level storage units based on subtracting the capacity of the virtual volume from the total capacity of the first and second volumes by using the volume information and the virtualization information.*"

This limitation, in combination with the other limitations of claim 23, is not taught or suggested by the prior art of record.

18. **Claim 24** recites the limitation "*wherein said CPU calculates the total effective capacity of the volumes of the first-level and second-level storage units based on subtracting the capacity of the virtual volume from the total capacity of said first and second volumes by using the volume information and the virtualization information thus collected.*" This limitation, in combination with the other limitations of claim 24, is not taught or suggested by the prior art of record.

19. **Claim 25** depends from claim 24, and is considered allowable for at least the same reasons as claim 24.

Examiner's Comment

20. Allowed claims 1-16 and 18-25 will be renumbered as follows

Original	1-8	9-10	11-13	14	15-16	18	19	20-21	22	23	24-25
New	1-8	10-11	13-15	12	16-17	21	9	19-20	18	22	23-24

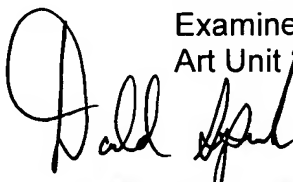
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jared I. Rutz whose telephone number is (571) 272-5535. The examiner can normally be reached on M-F 8:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jared I Rutz
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DONALD SPARKS
SUPERVISORY PATENT EXAMINER

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